took the sensible view that "such hideous and unmeaning forms only tend to bring scientific nomenclature into contempt." The venerable Professor Westwood further remarked that "it was puzzling to imagine how any educated man (*vel doctus, vel doctor*) could deliberately write, much less print, such names; and still more, how any scientific society could allow them to appear in their transactions."

No editor or publication committee should allow such grotesque absurdities to go into print; and even then such barbarisms should be expunged; not to throw out such names, whatever nomenclatural codes are in vogue, is, we submit, an unpardonable leniency.

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RECENT LITERATURE.

MERRIAM'S MAMMALS OF THE ADIRONDACK REGION[1]—This well-written, elegantly printed volume is essentially a fresh and original contribution to the zoölogy of the Mammalia. Though restricted to the mammals of a limited area, the species have a wide geographical range, and the results of so much close observation, through a period of so many years, by a close and critical student, will be of permanent value. Sportsmen and naturalists will be under obligations to Dr. Merriam for this volume. It is purely biographical, with no descriptive or anatomical details. Moreover the matter is well presented, and will be found attractive, as we have reason to know, to boys interested in wood and field sports and nature.

The book is in the line of Audubon's Quadrupeds and Godman's American Natural History; with these works as a basis, the future student of mammals will, from work of this kind, be led more to the comparative study of coloration, of protective mimicry, of sexual selection and of instinctive and reasoning acts.

[1] *The Mammals of the Adirondack region, Northeastern New York.* With an introductory chapter treating of the location and boundaries of the region, its geological history, topography, climate, general features, botany and faunal position. By CLINTON HART MERRIAM, M.D. Published by the author, Sept., 1884. Reprinted from Vols. I and II, Transactions Linnæan Society, New York. Roy. 8vo, pp. 316.

If anything is wanting in the pages of the book before us, it is facts bearing on the psychology of these animals, such as are to be found in Morgan's work on the beaver. Studies of this kind have, however, to be mostly carried on with animals kept in confinement.

Regarding the change of color in the winter and summer pelage, Dr. Merriam has a good deal to say, as we have shown in a previous notice of the early part of this work, which originally appeared in the Transactions of the Linnæan Society of New York. Under the head of the varying hare the subject is again taken up, and the author insists that the change of color is due to the presence or absence of snow, or in his own words: "Both in spring and fall the time of the change seems to be governed by the presence or absence of snow, and is not affected by the temperature." A careful, detailed and comparative study of this subject is much needed. So far as we have looked into the matter, we have been disposed to consider Dr. Merriam's views with favor, but have learned from hunters facts which seem to show that temperature is not wholly without influence in producing the change. But why should not all of our northern mammals which do not hibernate, but are abroad when the snow is on the ground change their pelage? Why are the varying hare, ermine, arctic fox, etc., the only animals which change? Why do not the fisher and mink change as well as the ermine?

Whether the lay reader will be pleased with the use of the trinomial nomenclature remains to be seen. Perhaps occasionally useful in a strictly scientific treatise, why should not *Sciuropterus volucella hudsonius*, read *Sciuropterus voluzella* var. *hudsonius;* the uninitiated reader would then understand that a well recognized variety of the ordinary more southern flying squirrel was meant. It is to be hoped that our trinomialists will not "run the thing into the ground."

We find no occasion for criticism in this admirable book, and excerpt some paragraphs concerning topics which appear new and fresh, though for that matter the entire volume smacks of out-of-door life, is redolent of the spruce and pine woods, and carries us back to the clear skies and sylvan retreats and mountain lakes of the noble Adirondack forests.

Speaking of the mole Dr. Merriam writes:

"The modification of structure that adapts this animal to its peculiar mode of life affords a most remarkable example of animal specialization. The conical head, terminating in a flexible cartilaginous snout, and unencumbered with external ears or eyes to catch the dirt, constitutes an effective wedge in forcing its way through narrow apertures; the broad and powerful hands, whose fingers are united nearly to their very tips and armed with long and stout claws, supply the means by which the motive power is applied, and serve to force the earth away laterally to admit the

wedge-like head; while the apparent absence of neck, due to the enormous development of muscles in connection with the shoulder-girdle, the retention of the entire arm and forearm within the skin, the short and compact body, and the covering of soft, short and glossy fur tend to decrease to a minimum the frictional resistance against the solid medium through which it moves. In fact, it presents a most extraordinary model of a machine adapted for rapid and continued progress through the earth.

"The mole does not, and cannot, *dig* a hole in the same sense as other mammals that engage in this occupation, either in the construction of burrows or in the pursuit of prey. When a fox or a woodchuck digs into the ground the anterior extremities are brought forward, downward and backward, the plane of motion being almost vertical; while the mole, on the other hand, in making its excavations carries its hand forward, outward and backward, so that the plane of motion is nearly horizontal. The movement is almost precisely like that of a man in the act of swimming, and the simile is still closer from the fact that the mole brings the backs of his hands together in carrying them forward, always keeping the palmar surface outward and the thumbs below. Indeed, when taken from the earth and placed upon a hard floor, it does not tread upon the palmar aspect of its forefeet as other animals do, but runs along on the sides of its thumbs, with the broad hands turned up edgewise."

Regarding the migratory habits of the gray squirrel, which have become almost a matter of tradition, the author writes:

"The minor migratory movements of this species occur with more or less regularity from year to year, but on so small a scale as to escape general notice. They must not be confounded with the great migrations, not rare in former times, when these animals, actuated by some unknown influence, congregated in vast armies and moved over the land, crossing open prairies, climbing rugged mountains and swimming lakes and rivers that lay in their path. Though hundreds, and sometimes thousands, perished by the way, the multitude moved on, devouring the nuts that grew in the forests through which they passed, and devastating the grain fields of the farmer along the route. Though these remarkable expeditions have been known and commented upon for many years, yet our knowledge of them is limited almost to the recognition of the fact of their existence. Scarcity of food very probably gives rise to the disquieting impulse that prompts them to leave their homes, but the true motives that operate in drawing them together, and in determining the direction and distance of their journeys are as little understood to-day as they were before the discovery of the continent on which they dwell.

"In the year 1749 they invaded Pennsylvania in such vast hosts as to endanger the crops of the entire inhabited portion of

the State, and a reward of three pence a head was offered for their destruction. This necessitated the payment of eight thousand pounds sterling (640,000 individuals having been killed) which so depleted the treasury that the premium was decreased one-half."

The book is readable throughout, and its carefully prepared biographical sketches will have a permanent interest.

GRAY'S SYNOPTICAL FLORA.[1]—Everything from the pen of Dr. Gray is welcomed by the botanists of the country as a contribution from one who is a master. A few years ago a volume appeared bearing the title Synoptical Flora, which covered the ground of the Gamopetalæ after Compositæ. The volume before us, which closely resembles its predecessor, includes the gamopetalous orders Caprifoliaceæ, Rubiaceæ, Valerianaceæ, Dipsaceæ and Compositæ. The two volumes thus cover the whole of the North American Gamopetalæ, and bring our knowledge of this great group down to the present.

It may be interesting to give here in concise form some of the results brought out by this volume. By taking Bentham and Hooker's Genera Plantarum and comparing our North American composite flora with the composite flora of the world, we find that we have representatives of eleven of the thirteen tribes into which the order is now divided. We have 235 genera out of 766, or about thirty per cent of the whole. Our species (nearly 1500) constitute about four per cent of the whole.

If we look over the tribes we find the per cent of North American genera and species to be as follows:

	Per cent of genera.	*Per cent of species.*
1. Vernoniaceæ	7½	2½
2. Eupatoriaceæ	43	14
3. Asteroideæ	36	29
4. Inuloideæ	10	4
5. Helianthoideæ	46	30¾
6. Helenioideæ	70	68
7. Anthemideæ	20	7½
8. Senecionidæ	36	8⅓
9. Calendulaceæ	0	0
10. Arctotideæ	0	0
11. Cynaroideæ	19	4½
12. Mutisiaceæ	10	2¼
13. Cichoriaceæ	52	6⅓

From the foregoing table it is readily seen that our flora is rich in genera, and that it is particularly so in Helenioideæ, Cichoriaceæ, Helianthoideæ and Eupatoriaceæ. In like manner we observe that the Helenioideæ, Helianthoideæ and Asteroideæ

[1] *Synoptical Flora of North America.* By ASA GRAY, LL.D., F.M.R.S. and L.S. Lond., R.I.A. Dubl., etc., etc. Vol. I, Part II. Caprifoliaceæ–Compositæ. Published by the Smithsonian Institution, Washington. New York, London and Leipsic. July, 1884, pp. 474.